

SERIAL NO.: 10/762,657
Attorney Docket No. CHEN-0002

CLAIMS LISTING

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1.(currently amended) A method for the preparation of highly polyunsaturated fatty acid-containing phosphatidylserine and phosphatidic acid, the method comprising:
combining an L-Serine with a fish liver phosphatidylcholine;
phospholipase D-catalyzed transphosphatidylating the L-Serine and the fish liver phosphatidylcholine; and
producing a polyunsaturated fatty acid-containing phosphatidylserine from the transphosphatidylating step,
~~by the step of phospholipase D-catalyzed transphosphatidylating of a fish liver phosphatidylcholine at the presence of an L-Serine.~~

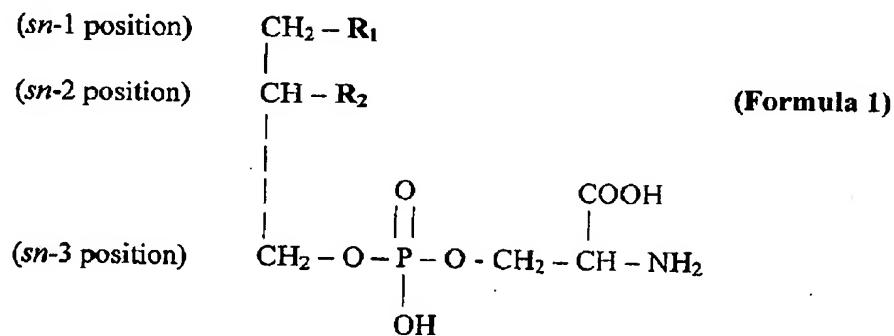
2.(currently amended) A method for the preparation of highly polyunsaturated fatty acid-containing phosphatidylserine and phosphatidic acid, the method comprising:
combining an L-Serine with purified phosphatidylcholine from fish livers;
~~manufactured by the phospholipase D-catalyzed transphosphatidylating ion of the an L-Serine and a fish liver phosphatidylcholine;~~
producing polyunsaturated fatty acid-containing phosphatidylserine from the phospholipase D-catalyzed transphosphatidylating step.

3. (currently amended) A method for the A-preparation of highly polyunsaturated fatty acid-containing phosphatidylserine and phosphatidic acid, the method comprising:
combining L-Serine with fish liver phosphatidylcholine containing fish liver crude phospholipids;
~~by the step of phospholipase D-catalyzed transphosphatidylating the phosphatidylcholine and L-Serine on of a fish liver lipid mixture that contain fish liver phosphatidylcholine at the presence of a L-Serine;~~
producing a polyunsaturated fatty acid-containing phosphatidylserine from the phospholipase D-catalyzed transphosphatidylating step.

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4. (currently amended) ~~A highly polyunsaturated fatty acid containing phosphatidylserine and phosphatidic acid manufactured by the phospholipase D-catalyzed transphosphatidylation of an L-Serine and a fish liver lipid mixture. A method of preparing phosphatidylserine species, the method comprising:~~

phospholipase D-catalyzed transphosphatidylating of L-Serine and fish liver phosphatidylcholine to produce a phosphatidylserine species as shown in Formula 1:



wherein R_1 is a mixture of acyl fatty chains, linked to the *sn-1* position, selected from the group consisting of $\text{COOC}_{15}\text{H}_{31}$ (acyl fatty chain; palmitic acid; 16:0), $\text{COOC}_{17}\text{H}_{35}$ (acyl fatty chain; stearic acid; 18:0), and $\text{COOC}_{17}\text{H}_{33}$ (acyl fatty chain; oleic acid; 18:1); and

wherein R_2 is a mixture of acyl fatty chains, linked to the *sn-2* position, selected from the group consisting of $\text{COOC}_{17}\text{H}_{33}$ (acyl fatty chain; oleic acid; 18:1), $\text{COOC}_{17}\text{H}_{31}$ (acyl fatty chain, Linoleic acid; 18:2), $\text{COOC}_{19}\text{H}_{31}$ (acyl fatty chain; arachidonic acid; 20:4), $\text{COOC}_{19}\text{H}_{29}$ (acyl fatty chain; eicosapentaenoic acid; 20:5 (ω -3)), $\text{COOC}_{21}\text{H}_{33}$ (acyl fatty chain; docosapentanoic acid; 22:5), $\text{COOC}_{21}\text{H}_{31}$ (acyl fatty chain; docosahexaenoic acid; 22:6 (ω -3)).